Dell Management Plug-in for VMware vCenter with Dell Repository Manager

Firmware update lifecycle and baseline management using Dell Repository Manager in a VMware vCenter environment

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Executive summary

The Dell Management Plug-in for VMware vCenter virtual appliance is a tool for keeping Dell hosts in vCenter environments up to date with the latest firmware from Dell or for applying the latest firmware baseline recommended by your organization.

The Dell Management Plug-in provides firmware update capabilities from directly inside the vSphere client and manages the firmware update download and installation, as well as monitoring progress of the updates and management of the host while the updates occur. This includes putting the host into maintenance mode and keeping progress of the updates in the vSphere *Recent Tasks* pane.

By default, the Dell Management Plug-in uses the online Dell repository of updates. Advanced users can leverage the Dell Repository Manager to create and manage custom firmware repositories for the Dell Management Plug-in to reference.

Integration between Dell Repository Manager and the Dell Management Plug-in for VMware vCenter allows a high level of control over the firmware update process, and enables establishment of enterprise-wide firmware baseline.

Introduction

The Dell Management Plug-In for VMware vCenter remotely updates Dell PowerEdge 11th and 12th generation servers by leveraging the Dell Lifecycle Controller using the Dell iDRAC. The Dell Management Plug-in provides a Firmware Update wizard on the server management tab to make selection and application of updates easy and convenient.

The Dell Management Plug-in consumes updates from using the update Web site from Dell, the custom repository created by Dell Repository Manager, or single hotfix updates from a user share.

Configuring updates with a repository share allows a step of indirection between Dell releases of firmware and the customer environment. You can use Repository Manager to check for the latest updates and pick and choose which updates are added into your baselines.

Additionally, Dell Repository Manager also supports Dell Management Plug-in for VMware vCenter integration. Dell Repository Manager can pull the list of hosts from the Dell Management Plug-in and create a custom repository automatically, allowing users to easily establish a custom repository based off of their environment.

Using Dell Repository Manager

Dell Repository Manager is available free, online.

Dell Repository Manager lets you easily manage system updates and provides a searchable interface used to create custom collections known as *bundles* and *repositories* of Dell Update Packages (DUPs). These bundles and repositories allow for the deployment of multiple firmware updates at once.

Bundle limitations

The Dell Management Plug-in for VMware vCenter consumes Dell bundles, which are logical collections of updates for a given system or configuration. Dell releases official firmware bundles for enterprise

servers through its SUU utility and online quarterly. The bundles are defined in a repository, which is a collection of bundles and individual updates.

For repositories created by Repository Manager and the bundles they contain to be consumed by the Dell Management Plug-in, make the bundles applicable to the target platform and the bundles should also contain DUPs in the Windows (exe) format.

To create one repository to manage all your systems, make sure to create at least one bundle for each system type in your environment, for example: a user with Dell PowerEdge M610, Dell PowerEdge R710, and Dell PowerEdge T610 servers in their environment would create a repository with three bundles, one for each model.

The Dell Management Plug-in only applies firmware consumable by the Lifecycle Controller. The Dell Management Plug-in inventories the Lifecycle Controller and matches that against the bundle definitions in the user repository to determine what firmware is applicable to a target system.

Any drivers, non-applicable or OS-specific firmware does not appear in the Firmware Wizard of the Dell Management Plug-in for VMware vCenter. For full details on the firmware update capabilities of the Lifecycle Controller, see its documentation.

Currently, Lifecycle Controller supports the update of BIOS, RAID, iDRAC, NIC, Driver Pack, Power Supply, Diagnostics, and Lifecycle Controller firmware. Limiting bundles to containing only those updates keeps the size of the configured repository at a minimum.

Automatically creating a repository using Repository Manager Plug-in Integration Feature

Dell Repository Manager has built in integration with the Dell Management Center Plug-In for VMware vCenter. Using your Dell Management Plug-in credentials, Dell Repository Manager pulls vCenter host information from the Dell Management Plug-in inventory and automatically creates a custom local firmware update repository that matches your environment.

Dell Repository Manager also lets you create diff reports between online repository from Dell and your local repository, so you can move new updates into your local repository as you need them.

With the Dell Management Center Plug-In for VMware vCenter is configured to consume that local repository, once new updates are made available in your local repository with DRM, Dell Management Plug-in matches hosts in your environment against your custom baselines and deploys updates directly from the Dell Repository Manager repository.

For more information on Dell Repository Manager integration with the Dell Management Center Plug-In for VMware vCenter, see its documentation.

Setting up a share with a custom repository

Once a repository is created and saved using the Dell Repository Manager, host it on a share from which the Dell Management Plug-in can access the share.

The Dell Management Plug-in supports two kinds of shares, NFS and CIFS. Use CIFS shares with Windows operating systems and NFS shares with Linux based operating systems.

Using Repository Updates in the Dell Management Plug-in for VMware vCenter

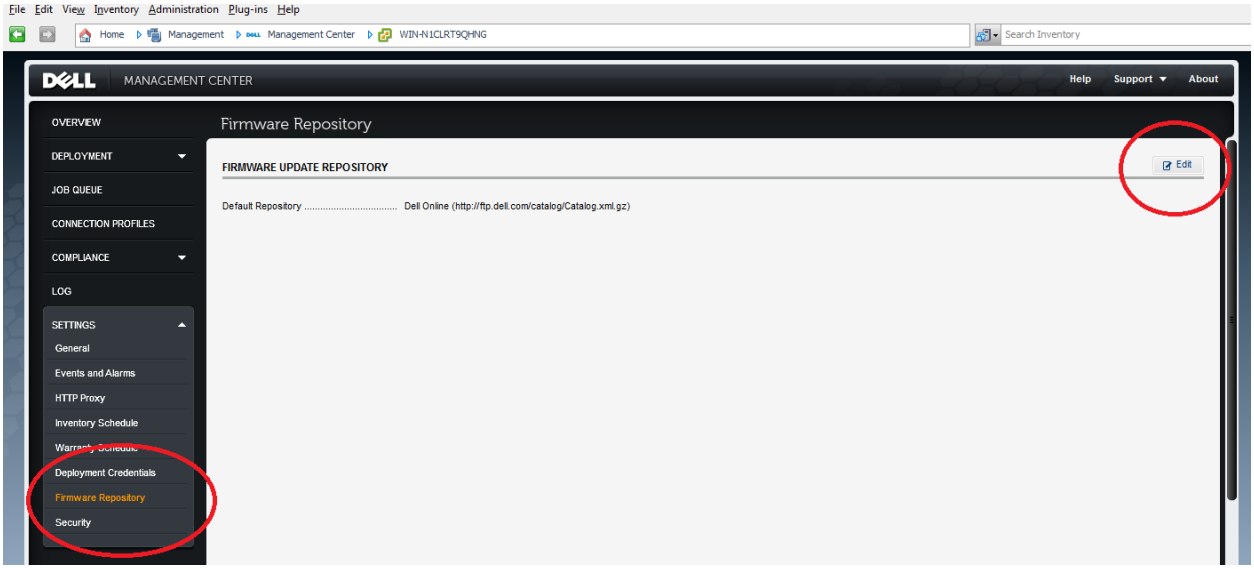
Before performing firmware updates, make sure that all hosts have been inventoried and are at a firmware level that allows remote firmware update. See the *Dell Management Plug-in for VMware vCenter User's Guide* for more information.

Configuring a local repository in the Dell Management Plug-in

To set up the firmware repository and credentials, go to the Dell Management Center, select Settings → Firmware Repository and then click *Edit*.

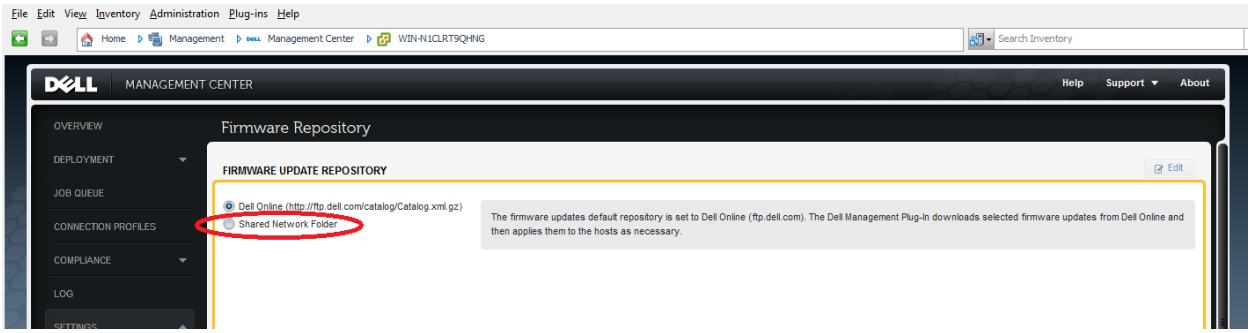
To point your Dell Management Plug-in to your Dell Repository Manager share, after choosing the Management Center Icon in the vSphere client, under Settings, go to the *Firmware Repository* page click *Edit*.

Figure 1. Pointing the Dell Management Plug-in to your Dell Repository Manager



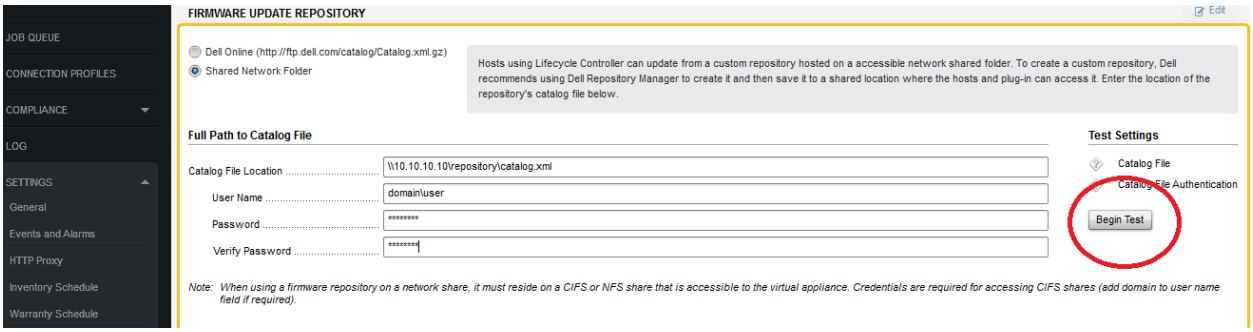
The best practice for managing repositories is to save the repository in Repository Manager directly to a CIFS share location that is accessible to the Dell Management Plug-in appliance. This allows for the appliance to always point to the latest repository and you only need to manage one copy of the repository. If the repository needs to be updated or changed at a later date, the Dell Management Plug-in picks up the changes automatically.

Figure 2. Select the *Shared Network Folder* option


File Edit View Inventory Administration Plug-ins Help
Home Management Management Center WIN-N1CLRT9QHNG
Search Inventory
DELL MANAGEMENT CENTER
Help Support About
OVERVIEW
DEPLOYMENT
JOB QUEUE
CONNECTION PROFILES
COMPLIANCE
LOG
Firmware Repository
FIRMWARE UPDATE REPOSITORY
Edit
Dell Online (http://ftp.dell.com/catalog/Catalog.xml.gz)
Shared Network Folder
The firmware updates default repository is set to Dell Online (ftp.dell.com). The Dell Management Plug-In downloads selected firmware updates from Dell Online and then applies them to the hosts as necessary.

After selecting the Shared Network Folder option, enter the share location and credentials for the share hosting the repository created by Dell Repository Manager.

If entering in the share location by name instead of IP, make sure the DNS settings are configured in the appliance. You can configure DNS in the network settings by navigating to the *Console tab* in your vSphere client for the Dell Management Plug-in VMware vSphere, and logging into the appliance using your Dell Management Plug-in administrator password.


JOB QUEUE
CONNECTION PROFILES
COMPLIANCE
LOG
SETTINGS
General
Events and Alarms
HTTP Proxy
Inventory Schedule
Warranty Schedule
FIRMWARE UPDATE REPOSITORY
Edit
Dell Online (http://ftp.dell.com/catalog/Catalog.xml.gz)
Shared Network Folder
Hosts using Lifecycle Controller can update from a custom repository hosted on a accessible network shared folder. To create a custom repository, Dell recommends using Dell Repository Manager to create it and then save it to a shared location where the hosts and plug-in can access it. Enter the location of the repository's catalog file below.
Full Path to Catalog File
Catalog File Location
\\10.10.10.10\repository\catalog.xml
User Name
domain\user
Password
Verify Password
Test Settings
Catalog File
Catalog File Authentication
Begin Test
Note: When using a firmware repository on a network share, it must reside on a CIFS or NFS share that is accessible to the virtual appliance. Credentials are required for accessing CIFS shares (add domain to user name field if required).

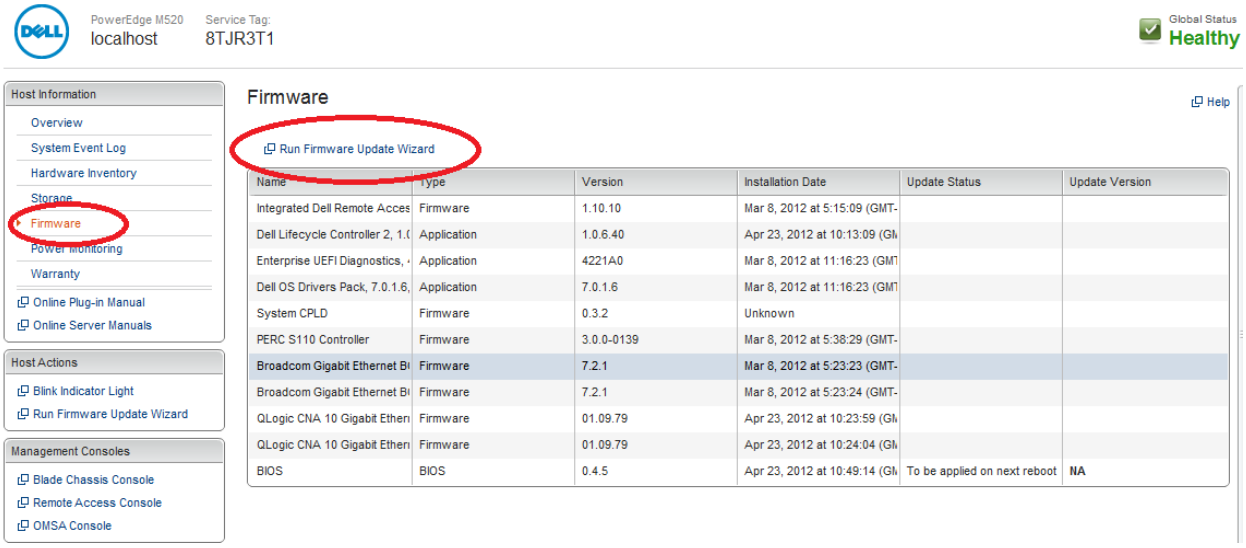
Test the share location and credentials using the *Begin Test* button, which attempts to connect to the share using the information provided. Once the credentials check is passing, select *Apply* to save changes.

The Dell Management Plug-in for VMware vCenter is now configured to use the local share repository.

Performing an update from a configured repository

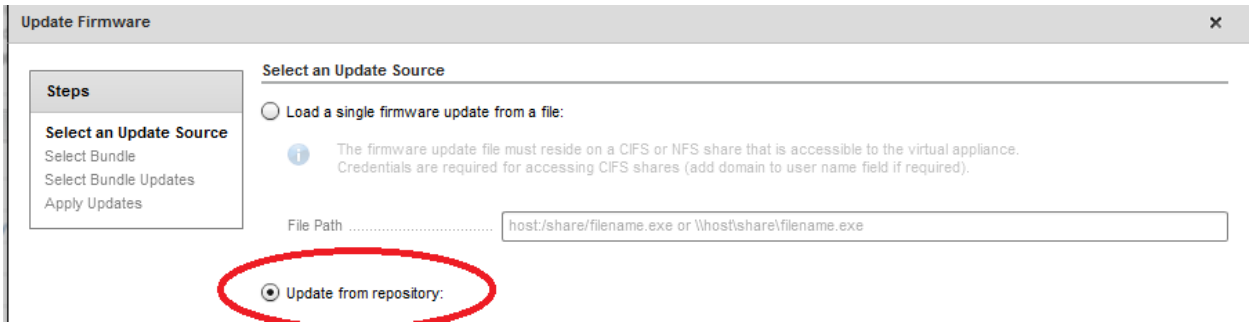
To perform updates from a configured repository, access the Dell Server Management tab available in vSphere under the *Hosts and Clusters* view.

Figure 3. Performing an update from the repository.



Select *Update* from repository option, the configured repository path should match the custom repository.

Figure 4. Select Update from repository


Update Firmware
Steps
Select an Update Source
Select Bundle
Select Bundle Updates
Apply Updates
Select an Update Source
Load a single firmware update from a file:
The firmware update file must reside on a CIFS or NFS share that is accessible to the virtual appliance.
Credentials are required for accessing CIFS shares (add domain to user name field if required).
File Path
host:/share/filename.exe or \\host\share\filename.exe
Update from repository:

Click *Next* and the Dell Management Plug-in loads the bundles from the custom repository. Select the bundle for your host and click *Next*. You can configure bundle names inside Dell Repository Manager to make bundle selection between multiple bundles easier.

If no bundles appear, verify that your bundles are Windows based and have the appropriate platform restrictions defined in Repository Manager. Incorrectly configured bundles will fail to appear.

Select the desired firmware updates and click *Next*.

Select the *Enter maintenance mode, apply updates, and restart* option.

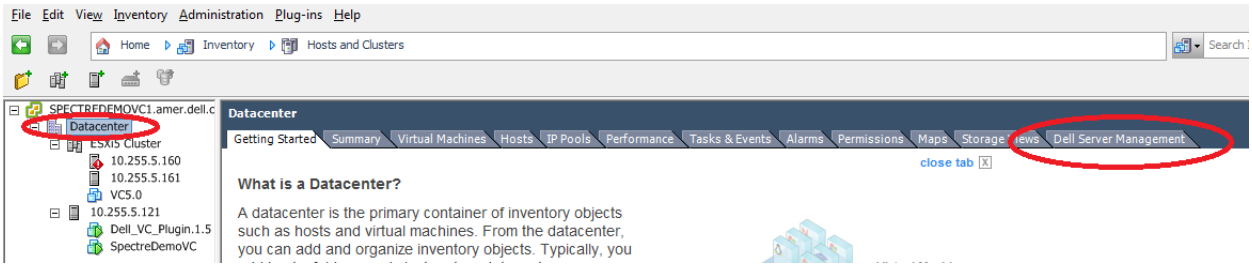
Click *Finish*.

Updates should be applied to selected host. To monitor update progress, check the *Recent Tasks* pane in the vSphere client.

Checking datacenter or cluster view for out-of-date firmware

Clicking on a datacenter or cluster inside the *Hosts and Clusters* view in vSphere and using the Dell Server Management tab allows a high level view of host status.

Figure 5. High level host status view


File Edit View Inventory Administration Plug-ins Help
Home Inventory Hosts and Clusters
Datacenter
Getting Started Summary Virtual Machines Hosts IP Pools Performance Tasks & Events Alarms Permissions Maps Storage Dell Server Management
close tab
What is a Datacenter?
A datacenter is the primary container of inventory objects such as hosts and virtual machines. From the datacenter, you can add and organize inventory objects. Typically, you
Datacenter
ESXi5 Cluster
10.255.5.160
10.255.5.161
VC5.0
10.255.5.121
Dell_VC_Plugin.1.5
SpectreDemoVC

Use the drop-down menu to select *firmware* and use the search bar to filter for specific devices like Bios or versions of firmware.

Figure 6. Use filters to view specific devices

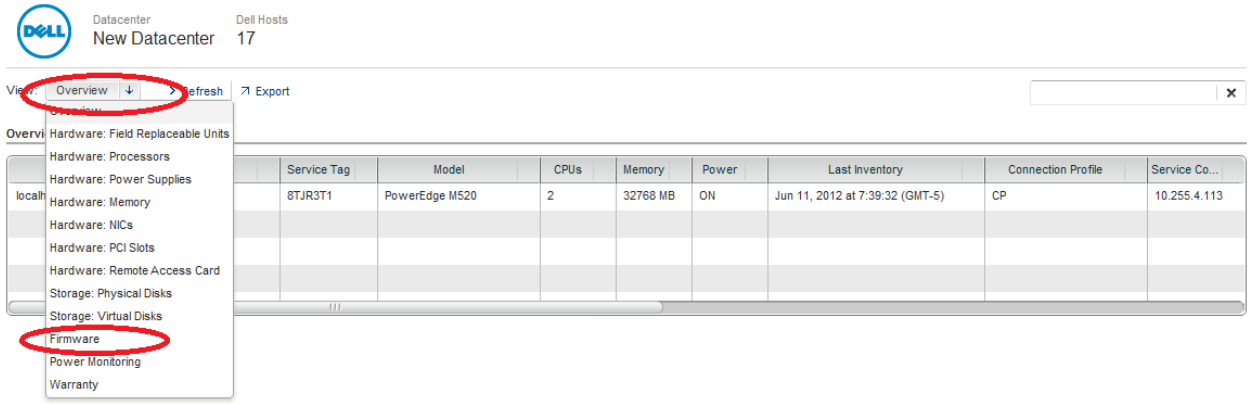
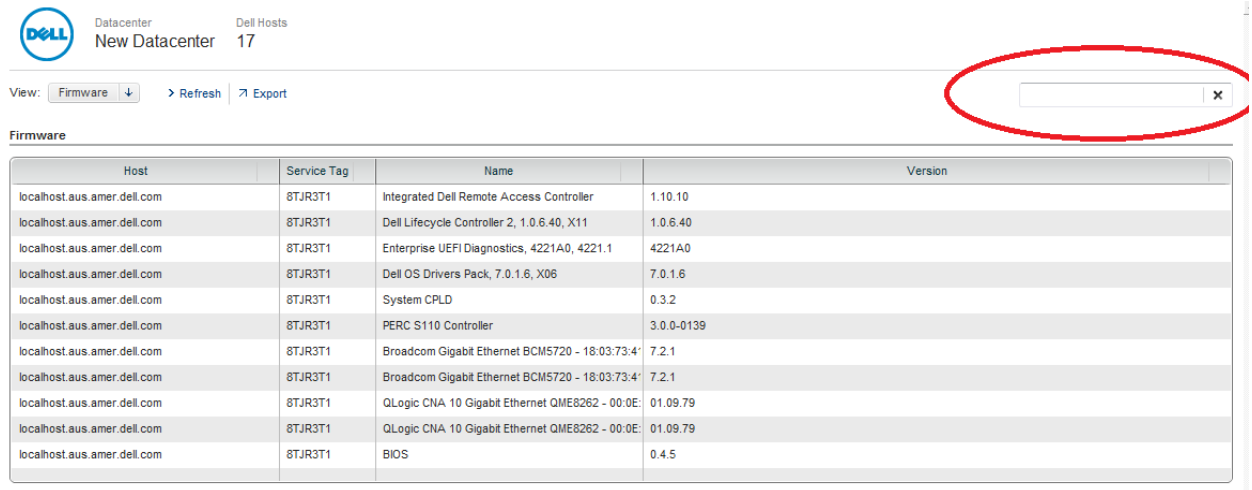


Figure 7. Closing the filter



This feature is helpful in determining if there are hosts that do not have the latest firmware from your configured repository.

Updating a custom repository using Dell Repository Manager

Getting updates from ftp.dell.com

Dell Repository Manager makes it easy to check your local repository for updates against updates posted on ftp.dell.com.

With update and compare functionality on a bundle-by-bundle basis, Dell Repository Manager is the best tool to establish custom baselines for your virtualized environment's firmware and keep it up to date.

Dell Repository Manager's documentation on keeping your local repository up to date is a great way to learn about how to keep firmware being consumed by the Dell Management Plug-In current with the latest fixes available from Dell.com.

Saving updates to Dell Management Plug-In configured repository

Once new updates are selected, saving the repository downloads the new updates to the repository location and updates the Catalog.xml to reflect the changes. If the repository location is not the configured share for the Dell Management Plug-in, copy the repository files to the Dell Management Plug-in share location.

The next time the Firmware Wizard runs, the new updates and bundles will be available.

Conclusion

Creating custom repositories lets you manage your firmware update lifecycle directly. Custom repositories let you pick and choose which updates are available to hosts inside their environment. Keeping a custom repository is useful if iDRACs in the environment do not have direct access to ftp.dell.com.